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Raffi J. Gostanian, Jr. Jackson Walker L.L.P. Suite 600 2435 North Central Expressway Richardson, TX 75080			EXAMINER KIM, DAVID S	
			ART UNIT 2613	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/785,474	Applicant(s) TOMICH ET AL.	
	Examiner David S. Kim	Art Unit 2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6, 8 and 10-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 8 and 10-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Priority***

1. Applicant's efforts to comply with the requirements for obtaining the benefit(s) of earlier filed applications are noted and appreciated. Applicant claims priority of prior Application Nos. 09/435,657, filed on 08 November 1999, and 08/607,964, filed on 29 February 1996.
2. **Regarding 09/435,657**, Applicant amended the specification to include the relationship of the instant application and 09/435,657. Applicant's amendment to the specification indicates that the instant application is a *divisional* application filed under 37 CFR 1.53(b) of 09/435,657. Applicant's most recent amendment to the specification removes a portion of the disclosure that was not presented in the prior applications, i.e., two fiber optic lines that run counter directionally to each other. Thus, the disclosure of the instant application is substantially the same as the disclosure of 09/435,657. Accordingly, the relationship between the instant application and 09/435,657 is clear. The instant application is a divisional of 09/435,657. The instant application receives the benefit of the filing date of 09/435,657.
3. **Regarding 08/607,964**, Applicant amended the specification to include the relationship of the instant application and 08/607,964. Applicant's amendment to the specification indicates that the instant application is a *divisional* application filed under 37 CFR 1.53(b) of 09/435,657, which is a *continuation-in-part* of 08/607,964. As the relationship between the instant application and 09/435,657 is clear, the relationship between the instant application and 08/607,964 is also clear. The instant application receives the benefit of the filing date of 08/607,964.

Claim Rejections - 35 USC § 112

4. **Claims 1-4, 6, 8, and 10-17** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In particular, notice the following limitation in independent claim 1:

"a ring network configuration that formats user data bandwidth segments into the transmit multiplexed photonic signals, wherein the user data bandwidth segments are at least one of:

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television programming data;
audio programming data;
computer data; and
telephony service data” (emphasis Examiner’s).

However, the disclosure does not teach that the *ring network configuration* performs this formatting. Rather, paragraph [053] in the specification teaches that the *head-end communications circuit* performs this formatting. Moreover, Applicant’s remarks in Applicant’s most recent response (filed on 15 May 2007, p. 7, last full paragraph) state that the *head-end communications circuit* performs this formatting. Accordingly, this limitation introduces new matter to the claims. As a remedy, Examiner respectfully suggests Applicant to amend the claim language so that the *head-end communications circuit* performs this formatting.

5. **Claims 1-4, 6, 8, and 10-17** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

In particular, notice the following limitation in independent claim 1:

“a *ring network configuration* that formats user data bandwidth segments into the transmit multiplexed photonic signals, wherein the user data bandwidth segments are at least one of:

television programming data;
audio programming data;
computer data; and
telephony service data” (emphasis Examiner’s).

However, the disclosure does not teach that the *ring network configuration* performs this formatting. Additionally, it is not generally known that a ring network configuration can perform the action of formatting user data bandwidth segments. Rather, a ring network configuration generally refers only to the shape of a network. Without further teaching on how a ring network configuration can perform the action of formatting user data bandwidth segments, this limitation is not enabled. As a

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remedy; Examiner respectfully suggests Applicant to amend the claim language so that the *head-end communications circuit* performs this formatting.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Shioda et al.

7. **Claims 1-3, 6, and 8** are rejected under 35 U.S.C. 103(a) as being unpatentable by Shioda et al. (U.S. Patent No. 5,537,393, hereinafter "Shioda") in view of Wu et al. ("High-speed self-healing ring architectures for future interoffice networks", hereinafter "Wu"), and Rooholamini et al. ("Finding the right ATM switch for the market", hereinafter "Rooholamini"), with reference to Newton (*Newton's Telecom Dictionary*, 8th ed.). Shioda discloses:

(claim 1) The channel comprising the plurality of units, each including: the first circuit (optical receiver 15 in NODE A of Fig. 1) that receives photonic signals, the second circuit (optical transmitter 16 in NODE A) that transmits multiplexed photonic signals, the subsequent set of the units (other NODEs), and the ring network configuration (ring in Fig. 1),

wherein the units are operably coupled to a third circuit (e.g., any other appropriate NODE) that formats user data bandwidth segments into the transmit multiplexed (e.g., the time slot circuitry in the Figures) photonic signals, wherein the user data bandwidth segments are at least one of:

television programming data (implied by the television set in col. 4, l. 5-8);

audio programming data;

computer data; and

telephony service data.

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Shioda does not expressly disclose:
the head-end communications circuit.

Rather, Shioda shows a number of various communications circuits (any other appropriate NODE) in a SONET/SDH ring. However, head-end communications circuits in such rings are well known in the art. Wu shows such a head-end communications circuit (Wu, HUB and corresponding ADM together in Fig. 1 provide access between the ring and the remainder of the network in Fig. 1; this circuitry to Wu is within the scope of the definition of "head end" according to Newton, p. 504). At the time the invention was made, it would have been obvious to one of ordinary skill in the art to designate one of the various communication circuits of Shioda (NODEs in Fig. 1) as a head-end communications circuit. One of ordinary skill in the art would have been motivated to do this since such a circuit provides an access gateway between the apparatus of Shioda and other portions of an extended network (Shioda, Fig. 1, access gateway to REMAINDER OF THE NETWORK in Fig. 1), thus increasing network reach.

Additionally, Shioda in view of Wu and Newton does not expressly disclose:
an asynchronous head-end communications circuit.

However, employing asynchronous technology is a common practice throughout the art, as exemplified by the use of asynchronous transfer mode (ATM) in Rooholamini (use of circuitry to implement ATM, bottom of p. 25). At the time the invention was made, it would have been obvious to one of ordinary skill in the art to implement ATM over the SONET/SDH (Shioda, col. 1, l. 10-14) network of Shioda in view of Wu and Newton, adapting the head-end/hub circuitry to implement ATM as taught in Rooholamini (Rooholamini, use of circuitry to implement ATM, bottom of p. 25). One of ordinary skill in the art would have been motivated to do this since ATM may provide more efficient use of bandwidth in contrast to time-domain multiplexed schemes (Rooholamini, p. 24, "Efficient use of bandwidth" section), as SONET/SDH is generally known to be.

(claim 2) The first module (module 12 in NODE A of Fig. 1) comprising the first surface (e.g., left side of module 12) aligned with the first circuit (e.g., optical receiver 15) and another second circuit (e.g., optical transmitter 17) aligned with the second surface (e.g., right side of module 12) of the first module.

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(claim 3) The second module (module 12 in NODE A of Fig. 1) comprising the first surface (e.g., left side of module 12) aligned with the second circuit (e.g., optical transmitter 16) and another first circuit (e.g., optical receiver 18) aligned with the second surface (e.g., right side of module 12) of the second module.

(claim 6) The channel consists of a fiber optic cable (pick a fiber 13 or 14 in Fig. 1).

(claim 8) The channel consists of an infrared data signal path (pick a fiber 13 or 14, fiber carries infrared signals).

8. **Claims 4 and 10-17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Shioda in view of Wu, Rooholamini, and Newton.

(claim 4) Shioda in view of Wu, Rooholamini, and Newton does not expressly disclose the optical window, the enclosure, and the bottom plate of claim 4. However, one of ordinary skill in the art would have noticed that a standard housing box for an optical node (e.g., NODEs in Fig. 1) of Shioda in view of Wu and Newton with an aperture(s) for the optical signals would read on the limitations of claim 4. It is standard practice to house transmission and reception circuitry in such boxes.

(claims 10-17) Shioda in view of Wu, Rooholamini, and Newton does not expressly disclose the limitations of claims 10-17: Ethernet packets, Frame Relay packets, FDM signals, On-Off Keying, Frequency-Shift Keying, Quadrature-Phase-Shift Keying, Quadrature-Amplitude-Modulation, and a proprietary modulation. However, all of these limitations are common and well-known techniques for transmitting information signals. These various techniques are readily available to one of ordinary skill in the art to modify Shioda in view of Wu, Rooholamini, and Newton to provide further obvious variations of Shioda in view of Wu, Rooholamini, and Newton.

Terminal Disclaimer

9. The terminal disclaimers filed on 30 May 2006 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. Patent No. 5,983,068 and Application No. 09/435,657 (now U.S. Patent No. 7,099,316, issued on 29 August 2006) have been reviewed and are accepted. Applicant paid the fees that were missing in Applicant's previous response (filed on 30 May 2006). The terminal disclaimers have been recorded.

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Response to Arguments

10. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection. Applicant's arguments are based on the new limitation introduced to independent claim 1 by amendment. Notice the application of the teachings from newly discovered Rooholamini with Shioda, Wu, and Newton to address these limitations. Accordingly, Applicant's arguments are moot.

Conclusion


11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Chao et al. and Rao et al. are cited to show the use of ATM over SONET networks (Chao et al., e.g., p. 0970, col. 2, 1st and 2nd paragraphs, Fig. 7; Rao et al., e.g., Fig. 4).

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David S. Kim whose telephone number is 571-272-3033. The examiner can normally be reached on Mon.-Fri. 9 AM to 5 PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth N. Vanderpuye can be reached on 571-272-3078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DSK


KENNETH VANDERPUYE
SUPERVISORY PATENT EXAMINER